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On a partial differential equation in 4-dimensional euclidean space

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Abstract

The objective of this article is to construct in a hyper-rectangular region of the 4-dimensional Euclidean space a solution of the Goursat problem for the following equation: L(u) =∑m1 i1=0∑m2 i2=0∑m3 i3=0∑m4 i4=0ai1 i2 i3 i4 (x 1, x2, x3, x4) ∂ i1+i2+i3+i4u/∂x1 i1∂x2 i2∂x3 i3∂x4 i4 = F (x1, x2, x3, x4).